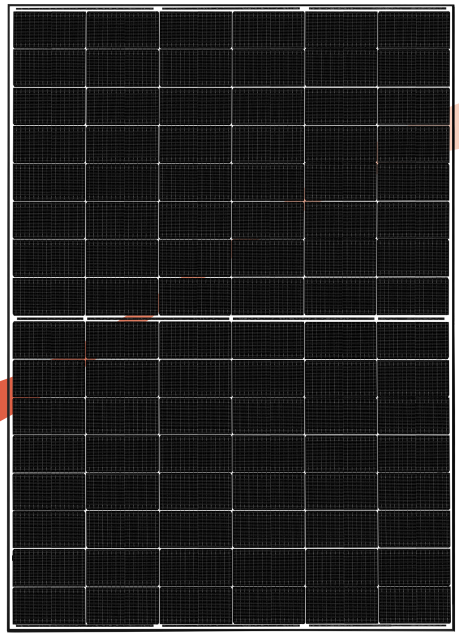
SUNTECH

Ultra T 2.0

HALF-CELL N-TYPE TOPCon
BLACK THRU BIFACIAL DOUBLE-GLASS MODULE
TYPE: STPXXXS-H48-Nth+

445-465W
POWER OUTPUT

23.3%
MAX EFFICIENCY



High module conversion efficiency

Module efficiency up to **23.3%** achieved through advanced cell technology and manufacturing process

Multi busbar technology

Superior optical utilization and current collection capability, effectively improving product power and reliability

Excellent low light performance

More power output in low light conditions such as cloudy days, mornings and evenings

Superior load-bearing capability

Module certified to withstand **5400 Pa** front side max static test load and **2400 Pa** rear side max static test load *

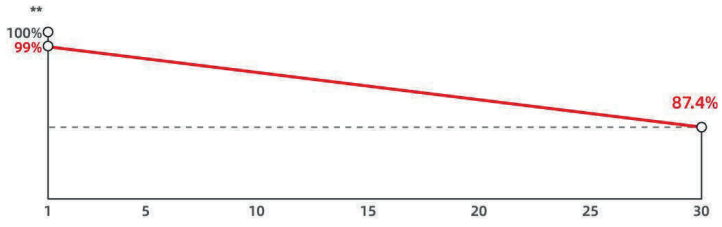
ISO 14001 Environment Management System
ISO 45001 Occupational Health and Safety
ISO 9001 Quality Management System
SA 8000 Social Responsibility Standards
IEC TS 62941 Guideline for Module Design

IEC 61701 Salt-mist Certification
IEC 62716 Ammonia Certification
IEC 60068-2-68 Dust and Sand
IEC 61730-2 (UL790) Fire Class C

Munich RE

30 years of linear warranty

25 years of product warranty



First year power degradation 1% Annual degradation 0.40%

* Please refer to Suntech Standard Module Installation Manual for details.

*** WEEE only for EU market.

** Please refer to Suntech Limited Warranty for details.

**** Suntech reserves the right to the final.

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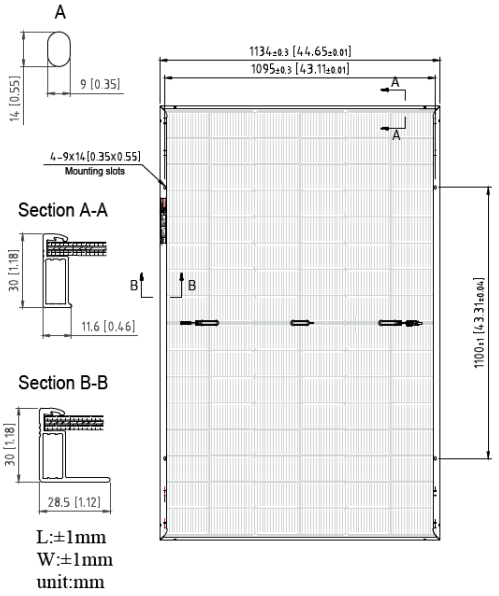
Ultra T 2.0 STPXXXS-H48-Nth+ 445-465W

Mechanical Characteristics

Solar Cell	N-type monocrystalline silicon
No. of Cells	96 (6 × 16)
Dimensions	1762 × 1134 × 30 mm (69.4 × 44.6× 1.2 inches)
Weight	24.8 kg (54.67 lbs.)
Front Glass	2.0 mm (0.079 inches), anti-reflective coating
Back Glass	2.0 mm (0.079 inches), heat strengthened glass
Output Cables (Including Connector)	4.0 mm², (-) 1400 mm (+) 1400 mm in length or customized length
Junction Box	IP68 rated (3 bypass diodes)
Operating Module Temperature	-40 °C to +70 °C
Maximum System Voltage	1500 V DC (IEC)
Connectors	STP-XC4-4 (Standard)/MC4-EVO2A (Optional)
Maximum Series Fuse Rating	35 A
Power Tolerance	0 ~ + 3%
Refer. Bifaciality Factor	(80 ± 5)%
Frame	Anodized aluminum alloy frame
Packing Configuration	36 pieces per pallet 936 pieces per container / 40'HC 1796 × 1120 × 1255 mm per pallet 935 kg per pallet



Electrical Characteristics (STC)

Module Type	STP465S-H48-Nth+	STP460S-H48-Nth+	STP455S-H48-Nth+	STP450S-H48-Nth+	STP445S-H48-Nth+
Maximum Power (Pmax/W)	465	460	455	450	445
Optimum Operating Voltage (Vmp/V)	30.73	30.51	30.28	30.04	29.80
Optimum Operating Current (Imp/A)	15.13	15.08	15.03	14.98	14.93
Open Circuit Voltage (Voc/V)	36.42	36.25	36.08	35.91	35.74
Short Circuit Current (Isc/A)	15.87	15.82	15.77	15.72	15.67
Module Efficiency (%)	23.3	23.0	22.8	22.5	22.3

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; Measuring tolerance is within +/- 3%;

Electrical Characteristics (BNPI)

Maximum Power (Pmax/W)	505	500	494	489	483
Optimum Operating Voltage(Vmp/V)	31.00	30.77	30.53	30.30	30.06
Optimum Operating Current (Imp/A)	16.29	16.24	16.18	16.13	16.07
Open Circuit Voltage (Voc/V)	36.53	36.36	36.19	36.02	35.85
Short Circuit Current (Isc/A)	17.29	17.24	17.18	17.13	17.07

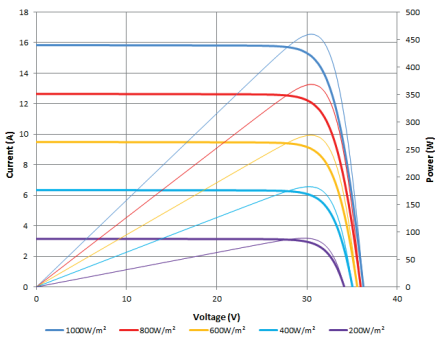
BNPI: Irradiance front 1000 W/m², rear 135 W/m², module temperature 25 °C, AM=1.5;

Temperature Characteristics

Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.046%/°C

Information on how to install and operate this product is available in the installation instruction. All values indicated in this data sheet are subject to change without prior announcement. The specifications may vary slightly . All specifications are in accordance with standard EN 50380. Color differences of the modules relative to the figures as well as discolorations of/in the modules which do not impair their proper functioning are possible and do not constitute a deviation from the specification.

Graphs Current-Voltage & Power-Voltage (460W)



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